PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	Ulrich Bonne et al.	Confirmation No.: 8299
Serial No.:	10/671,930	Examiner: Keri A. Moss
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For:	PHASED MICRO ANALYZER III, IIIA	
Docket No.:	H0004978-1100.1208101	

REPLY BRIEF

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Lynn Thompson — September 14, 2009
Lynn Thompson — Date

Pursuant to 37 C.F.R. § 41.41, Appellants hereby submit this Reply Brief in response to the Examiner's Answer filed July 14, 2009, which vacated the original Examiner's Answer mailed June 12, 2008. The new Examiner's Answer corrected the listing of claims in the rejections and did not add a new ground of rejection. Appellants' arguments presented below respond fully to the new Examiner's Answer.

The Examiner asserts, in the paragraph bridging pages 5-6 of the Examiner's Answer, "Bonne teaches concentrator heating elements and teaches that 'any number of downstream [concentrator heating] elements may be heated...to produce an even further increased concentration level at the output of the concentrator' (Column 3 lines 13-17)." The Examiner further quotes Bonne et al. (Bonne) as teaching "between one hundred and one thousand heater elements spaced along channel 250", citing column 9, lines 1-3. The Examiner then asserts that such teaching provides support for modifying Bonne to have multiple separator heating elements. Appellants submit that the Examiner has mischaracterized Bonne. The above quotations from Bonne appear to be directed to a plurality of concentrator heating elements used in order to achieve the desired concentration pulses used for detection. Bonne specifically teaches

> The present invention overcomes many of the disadvantages associated with the prior art by providing a concentrator and sensor assembly that use phased heaters to increase or multiply the concentration levels beyond those that can be achieved by a single interactive element having a sorbent material.... As can be seen, this produces a multiplication effect that can significantly increase the concentration of the gas constituents at the detector, thereby increasing the effective sensitivity of the detector.
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> ...
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> A controller energizes the heater elements in a time phased sequence. The controller preferably energizes the heater elements such that each of the corresponding interactive elements become heated and desorb selected constituents into the sample fluid stream at substantially the time at which an upstream concentration pulse, produced by one or more upstream interactive elements, reaches the interactive element. It is contemplated that a large number, N, of interactive elements may be used to achieve the desired multiplication of concentration of constituent gases in the concentration pulse by a factor N.
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> The resulting concentration pulse may then be provided directly to a detector for detection and analysis. The detector may be a thermal conductivity detector, discharge ionization detector, or any other type of detector such as those commonly used in gas chromatography. More preferably, however, the resulting concentration pulse is first provided to a separator. The separator separates selected gas constituents of the resulting concentration pulse into individual constituent components. The detector may then detect the concentration of each constituent that elutes from the separator.

Emphasis added; see column 1, lines 42-57 and column 2, lines 1-22. Bonne appears to teach a system and method designed to provide multiple concentration pulses in order to greatly increase the concentration of gas constituents, using a plurality of heating elements operation in a time phased sequence. Bonne, however, appears to teach a single separation heater in the detector system. The focus of Bonne appears to be concentrating the gas constituents in order to provide an improved detection, with the single separation heater used in the detection system. The Examiner appears to be asserting that because Bonne teaches a plurality of concentrator heaters, that one would have been motivated to modify the system to move some of the heaters to the separator "in order to obtain the desired concentration of the desired compound." As shown above, Bonne teaches the desired concentration of the desired compound as being achieved through the use of a time phased sequence of concentrator heaters, while using a single separation heater. Appellants submit that one of ordinary skill in the art, upon reading Bonne, would have been motivated, if at all, to employ further concentrator heaters in order to further optimize the system. Bonne does not provide, and there is no motivation for one of ordinary skill in the art to add, additional separator heaters, as asserted by the Examiner. The only motivation to do so appears to be found in Appellant's specification, which is improper.

The Examiner asserts, on page 8 of the Examiner's Answer, that the motivation for one of ordinary skill in the art to modify Bonne by adding separator heating elements is "for multiplied effect." As indicated above in the quotes, Bonne appears to teach a "multiplied effect" as being achieved by increasing the number and time phased array of concentrator heaters. The Examiner further asserts that the effect of duplicating the single separation heater taught by Bonne would be that of separating more selected constituents or to enable a more precise separation of selected constituents. The Examiner has not provided any technical teaching or reasoning to support these assertions.

The Examiner asserts, on pages 10-12 of the Examiner's Answer, that Bonne teaches a ratio control mechanism because Bonne teaches turning on and off the various concentrator heaters in the time phased array, while the separator heater remains on, as illustrated in FIG. 8. Appellant submits that Bonne's apparent teaching of the time phased operation of the

concentration heaters while the separation heater remains constantly on is not a ratio control mechanism as recited in the claims, and as described in the specification. MPEP 2111 states:

> During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) expressly recognized that the USPTO employs the "broadest reasonable interpretation" standard:
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> The Patent and Trademark Office ("PTO") determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). Indeed, the rules of the PTO require that application claims must "conform to the invention as set forth in the remainder of the specification and the terms and phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description." 37 CFR 1.75(d)(1).
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> 415 F.3d at 1316, 75 USPQ2d at 1329. See also< *In re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000).
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> ...
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> The broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999)

Emphasis added. One of ordinary skill in the art would understand that, in the context disclosed in the specification, the ratio control mechanism claimed varies the ratio of multiple concentrator heaters to multiple separation heaters. The Examiner's interpretation of "ratio control mechanism" is not consistent with the specification or with the interpretation of one of ordinary skill in the art upon reading the specification.

On page 13 of the Examiner's Answer, the Examiner again quotes Bonne as teaching any number of concentrator heating elements to increase concentration levels, and asserts that based on this teaching, one of ordinary skill in the art would have been motivated to vary the number of separation heating elements. As discussed above, Bonne teaches, as acknowledged by the

Examiner, varying the number of concentrator heating elements in order to provide the time phased array to achieve concentration pulses, which provides the desired increase in concentration. Bonne, however, teaches a single separation heater and provides no suggestion or motivation that adding additional separation heaters would provide additional separation. The Examiner also asserts that it is well known that increasing the number of separation means would optimize the desired level of separation. Bonne, however, appears to be directed to optimizing the concentration. Further, the Examiner has not provide any support for the assertion that increasing the number of separation heaters in the particular system of Bonne would necessarily result in an increased level of separation.

For the reasons stated above, the rejections of claims 1-10 and 22-30 under 35 U.S.C. § 103(a), should be reversed.

Respectfully Submitted,

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